What is claimed is:

1. A semiconductor device comprising:

a gate electrode formed extending on a first and second gate insulation films formed on one conductive type semiconductor substrate;

a reverse conductive type source region adjacent to one end of said gate electrode;

a first low concentration reverse conductive type drain region formed facing said source region through a channel region, having high impurity concentration peak at a position of the predetermined depth at least in said substrate under said first gate insulation film, and formed so that high impurity concentration becomes low at a region near surface of the substrate;

a second concentration reverse conductive type drain region formed so as to range to the first low concentration reverse conductive type drain region; and

a third concentration reverse conductive type drain region separated from the other end of said gate electrode and included in said second concentration reverse conductive type drain region.

2. A semiconductor device comprising:

a gate electrode formed extending on a first and second gate insulation films formed on one conductive type semiconductor substrate;

a reverse conductive type source region adjacent to one end of said gate electrode;

a first low concentration reverse conductive type drain region formed facing said source region through a channel region, having high impurity concentration peak at a position of the predetermined depth at least in said substrate under said first gate insulation film, and formed so that high impurity concentration becomes low at a region near surface of the substrate;

a second concentration reverse conductive type drain region formed so as to range to the first low concentration reverse conductive type drain region;

a third concentration reverse conductive type drain region separated from the other end of said gate electrode and included in said second concentration reverse conductive type drain region; and

a fourth concentration reverse conductive type layer formed so as to span from one end portion of said first gate insulation film to said third concentration reverse conductive type drain region.

3. A semiconductor device according to Claim 1 , wherein said first insulation film is a field oxidation film field-oxidized.

4. A semiconductor device according to Claim 1 , wherein said fourth concentration reverse conductive

type layer has high impurity concentration peak at a position of the predetermined depth in said substrate at a region spanning from a position having the predetermined space from one end portion of said first gate insulation film to said third concentration reverse conductive type drain region, and is formed so that high impurity concentration becomes low at a region near surface of the substrate.

5. A method of manufacturing a semiconductor device comprising the steps of:

ion-implanting a reverse conductive type impurity in the predetermined region of one conductive type semiconductor substrate;

forming a first gate insulation film,a first concentration reverse conductive type drain region under the first gate insulation film, and a second concentration reverse conductive type drain region so as to range to the first concentration reverse conductive type drain region by diffusing said impurity ion-implanted in a heat treatment for field-oxidizing the predetermined region of said substrate;

forming a gate electrode so as to span from the first gate insulation film to the second gate insulation film after forming the second gate insulation film on said substrate except said first gate insulation film; and

forming a reverse conductive type source region so as to be adjacent to one end of said gate electrode, and forming a

third concentration reverse conductive type drain region facing said source region through a channel region, separated from the other end of said gate electrode, and included in said second concentration reverse conductive type drain region.

6. A method of manufacturing a semiconductor device according to Claim 5,

wherein said step of forming a first concentration reverse conductive type drain region and second concentration reverse conductive type drain region comprises a step of diffusing said impurity ion so that the impurity ion-implanted is taken in the first gate insulation film at field oxidation.

7. A method of manufacturing a semiconductor device according to Claim 5, further comprising:

forming a fourth concentration reverse conductive type layer so as to span from one end portion of said first gate insulation film to said third concentration reverse conductive type drain region.

8. A method of manufacturing a semiconductor device according to Claim 5, further comprising:

forming a fourth concentration reverse conductive type layer having high impurity concentration peak at a position of the predetermined depth in said substrate at a region spanning from a position having the predetermined space from one end portion of said first gate insulation film to said third concentration reverse conductive type drain region, and is

formed so that high impurity concentration becomes low at a region near surface of the substrate.

9. A method of manufacturing a semiconductor device according to Claim 7,

wherein phosphorus ion is ion-implanted with high acceleration energy of about 100 KeV to 200 KeV at said forming process of the fourth concentration reverse conductive type layer.

10. A method of manufacturing a semiconductor device according to Claim 8,

wherein phosphorus ion is ion-implanted with high acceleration energy of about 100 KeV to 200 KeV at said forming process of the fourth concentration reverse conductive type layer.

11. A method of manufacturing a semiconductor device according to Claim 7,

wherein ion implantation is carried out at a region spanning from a position separated the predetermined space from said first gate insulation film to said third concentration reverse conductive type drain region by using a photo-resist as a mask at said forming process of the fourth concentration reverse conductive type layer.

12. A method of manufacturing a semiconductor device according to Claim 8,

wherein ion implantation is carried out at a region

spanning from a position separated the predetermined space from said first gate insulation film to said third concentration reverse conductive type drain region by using a photo-resist as a mask at said forming process of the fourth concentration reverse conductive type layer.

13. A method of manufacturing a semiconductor device according to Claim 7,

wherein ion implantation is carried out at a region spanning from a position separated the predetermined space from the first gate insulation film to said third concentration reverse conductive type drain region by using a side wall insulation film formed at a side wall portion of said first gate insulating film as a mask at said forming process of the fourth concentration reverse conductive type layer.

14. A method of manufacturing a semiconductor device according to Claim 8,

wherein ion implantation is carried out at a region spanning from a position separated the predetermined space from the first gate insulation film to said third concentration reverse conductive type drain region by using a side wall insulation film formed at a side wall portion of said first gate insulating film as a mask at said forming process of the fourth concentration reverse conductive type layer.

15. A method of manufacturing a semiconductor device according to Claim 7,

wherein said fourth concentration reverse conductive type layer is formed at a region spanning from a position separated the predetermined space from the first gate insulation film to said third concentration reverse conductive type drain region by ion-implanting from oblique upper side of the first gate insulation film by using said first gate insulation film as a mask at said forming process of the fourth concentration reverse conductive type layer.

16. A method of manufacturing a semiconductor device according to Claim 8,

wherein said fourth concentration reverse conductive type layer is formed at a region spanning from a position separated the predetermined space from the first gate insulation film to said third concentration reverse conductive type drain region by ion-implanting from oblique upper side of the first gate insulation film by using said first gate insulation film as a mask at said forming process of the fourth concentration reverse conductive type layer.

17. A method of manufacturing a semiconductor device according to Claim 7,

wherein said fourth concentration reverse conductive type layer is formed at a region spanning from a position separated the predetermined space from the first gate insulation film to said third concentration reverse conductive type drain region by ion implantation from oblique upper side

by using a photo-resist formed so as to cover said first gate insulation film as a mask at said forming process of the fourth concentration reverse conductive type layer.

18. A method of manufacturing a semiconductor device according to Claim 8,

wherein said fourth concentration reverse conductive type layer is formed at a region spanning from a position separated the predetermined space from the first gate insulation film to said third concentration reverse conductive type drain region by ion implantation from oblique upper side by forming a photo-resist formed so as to cover said first gate insulation film as a mask at said forming process of the fourth concentration reverse conductive type layer.

19. A method of manufacturing a semiconductor device according to Claim 7,

wherein high impurity concentration of said first concentration reverse conductive type drain region is formed so as to become lower than said second concentration reverse conductive type drain region by that said impurity ion-implanted is taken in the first gate insulation film at field oxidation.

20. A method of manufacturing a semiconductor device according to Claim 8,

wherein high impurity concentration of said first concentration reverse conductive type drain region is formed

so as to become lower than said second concentration reverse conductive type drain region by that said impurity ion-implanted is taken in the first gate insulation film at field oxidation.